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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/691,757	10/22/2003	Hiroaki Suzuki	16869Q-093100US	6703

20350 7590 03/23/2005

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EXAMINER

KAPADIA, VARSHA A

ART UNIT	PAPER NUMBER
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2651

DATE MAILED: 03/23/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/691,757

Applicant(s)

SUZUKI ET AL.

Examiner

Varsha A Kapadia

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 October 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 8/30/2004.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

Information Disclosure

The information disclosure statement (IDS) submitted on August 30, 2004 is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

Rejection Under 35 U.S.C. 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1 4-10 and 13-15 are rejected under 35 U.S.C. 102(e) as being anticipated by Ferris et al.

With regards to claim 1, Ferris et al discloses a data storage device (see fig.1) comprising:

A write head (see fig.1 elements 4 and 6); a write circuit for generating write current to the head by using a supplied positive and negative voltage (see fig.1 element 8, 16 disclosure thereof and col.1 lines 15-19); a converter for generating negative voltage (see figs. 1-3 element 16 and disclosure thereof); and a controller for variably setting the magnitude of the negative voltage (see fig. 1 element 20 and disclosure thereof).

With regards to claims 4-5, Ferris et al discloses that the controller sets the magnitude of the negative voltage in accordance with the positive voltage and the relationship between the positive and negative voltage values (see col.4 lines 38-61).

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With regards to claims 6-7, Ferris et al further discloses that the magnitude of the negative voltage changes when the write head is not performing the write operation, and that the write current value during the write operation is greater than the write current value used after (see col.5 lines 38-53).

With regards to claims 8-9 see Ferris et al the paragraph bridging cols. 3 and 4 and fig.3 and disclosure thereof;

With regards to claims 10 and 13-15, the method and the program steps recited in claims 10, 13-15 corresponds to the apparatus limitations recited in claims 1 and 4-5 respectively, therefore the rejection applied to apparatus claims 1 and 4-5 is also applied to claims 10, 13-15 for the same reasons of anticipation.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 10 and 15 rejected under 35 U.S.C. 102(b) as being anticipated by Shinohara (5,831,783).

With regards to claim 10, Shinohara discloses a data write method comprising steps of: receiving a write command for the head over a disk (see col.2 lines 12-18 and col.6 lines 17-34); receiving the magnitude of the negative voltage to be supplied to the drive for the head in accordance with the specified condition (see col.9 lines 21-40); and causing the head over the disk to perform a write operation (see col.6 lines 17-34).

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With regards to claim 15, the method program steps recited in claim 15 are similar to the method steps recited in claim 10. Therefore the rejection applied to claim 10 is also applied to claim 15 for the same reasons.

Rejection Under 35 U.S.C. 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2-3 and 11-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ferris et al in view of Chang et al (6,188,531).

With regards to claims 2-3 and 11-12 discloses the invention as described above in this office action. Ferris et al fails to further disclose that the magnitude of the voltage is controlled in accordance with the ambient temperature of the disk.

Chang et al, however discloses such (see fig. 5 disclosure thereof and col.2 lines 60-65; wherein Chang et al depicts that the magnitude inversely varies with the temperature, see col.5 lines 24-29).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the power source control for the disk drive disclosed by Ferris et al with the above teaching from Chang et al in order to provide a device for sensing temperature during the writing of information on to the disk so to provide sufficient write current for that temperature and hence to minimize the write errors, as taught by Chang et al.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Varsha A Kapadia whose telephone number is (571)272-7557. The examiner can normally be reached on Mon Tue and Thurs. from 6:30 AM to 2:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Hudspeth can be reached on 571 272. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



VK-



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